

SUMMARY REPORT

CHEMICAL ENGINEERING ELECTIVES

A Mini-session Presented at the
Annual Meeting

Chicago, Illinois

1965

INTRODUCTION

In 1971, the Chemical Engineering Education Projects Committee conducted a survey on the teaching of Mass and Energy Balances in the chemical engineering curricula of about 150 universities in the United States and Canada. The purpose was to compile data on texts, laboratories, academic level and course content, and to discover and share innovative teaching techniques. Each succeeding year, a different chemical engineering subject area has been surveyed. From a modest 59 replies in 1971, the response has increased to a record 120 replies in last year's survey on Plant Design. Ninety replies were received to this year's survey on Chemical Engineering Electives.

The survey is conducted by means of a questionnaire mailed to the department chairman at 161 universities in the United States and Canada in late April. A follow-up letter is sent in early August to those departments which have not responded. Results are reported and discussed at the Undergraduate Free Forum at the AIChE Annual Meeting. A written summary of the survey is sent to each department submitting

A copy of the questionnaire is attached to

This year's survey suffered from a typographical error which created undue confusion in completing the questionnaire. While the [redacted] indicated that elective courses were being

surveyed, the title on the questionnaire itself read "Questionnaire [redacted] Teaching of Undergraduate Plant Design." Some respondents

were not sure how electives were related to plant design. Of course, there is no relationship.

CRITERIA FOR COURSES

CLASSIFICATION OF ELECTIVES

Respondents were asked to classify the electives into one of 16

_____ initially contained

[REDACTED]

A number of courses in the category "Other" were catch-all courses such as "Special Problems," "Special Topics," "Independent Work," and "Research" whose content would vary from year to year. Some areas covered in courses listed under "Other" include the following:

Corrosion
Electrochemical Engineering
Petroleum Processing
Transport Phenomena
Energy Sources
Industrial Methods

A few of the more intriguing electives were the following:

Physiological Instrumentation
Technical Administration
Food Engineering I, II
Engineering in a Legal Environment
Inventive Reasoning
Man and His Environment

The following tables treat schools on the semester system as

and schools on the quarter system as a second group

Semester system

Junior, first semester 16.0%

Junior, second semester 12.1%

Senior, first semester 33.1%

Senior, second semester 38.5%

Quarter system

Junior, first quarter 4.5%

Junior, second quarter 6.0%

Junior, third quarter 3.7%

28.1%

ELECTIVE HOURS

Respondents were asked to indicate the number of elective hours in their curricula. Five schools indicated no electives. One third of the schools have 3 or fewer elective courses.

<u>Hours</u>	<u>No. of Schools</u>
0	5
1 - 9	25
10 - 15	22
16 - 21	13
22 - 27	1
28 - 33	1
34 +	6

QUESTIONNAIRE ON TEACHING OF
UNDERGRADUATE PLANT DESIGN

Instructor _____

University _____

Course ID	Catalog No.	Course Title	HRS/WEEK		Credit	Class Size	Classifi- cation
			Lec.	Lab.			
1	_____	_____	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____	_____	_____
4	_____	_____	_____	_____	_____	_____	_____
5	_____	_____	_____	_____	_____	_____	_____
6	_____	_____	_____	_____	_____	_____	_____
7	_____	_____	_____	_____	_____	_____	_____
8	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____	_____	_____

CLASSIFICATION CODES

- | | |
|---------------------|----------------------------|
| 1. Stoichiometry | 10. Mathematics |
| 2. Mass Transfer | 11. Chemistry |
| 3. Fluid Flow | 12. Biochemistry |
| 4. Heat Transfer | 13. Environmental Science |
| 5. Thermodynamics | 14. Biomedical Engineering |
| 6. Kinetics | 15. Economics |
| 7. Unit Operations | 16. Nuclear Engineering |
| 8. Design | |
| 9. Process Dynamics | 20. Other |

